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Total Number of Pages in This Submission

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10/519,471

Filing Date

December 29, 2004

First Named Inventor

Helmut MERTENS

Art Unit

1797

Examiner Name

M. Gonzalez

Attorney Docket Number

47724

ENCLOSURES (Check all that apply)

- Fee Transmittal Form
- Fee Attached
- Amendment/Reply
 - After Final
 - Affidavits/declaration(s)
- Extension of Time Request
- Express Abandonment Request
- Information Disclosure Statement
- Certified Copy of Priority Document(s)
- Reply to Missing Parts/ Incomplete Application
 - Reply to Missing Parts under 37 CFR 1.52 or 1.53

- Drawing(s)
- Licensing-related Papers
- Petition
- Petition to Convert to a Provisional Application
- Power of Attorney, Revocation
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Appeal Communication to Board of Appeals and Interferences

Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)

Proprietary Information

Status Letter

Other Enclosure(s) (please Identify below):

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name

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Signature

Printed name

Mark S. Bicks

Date

April 30, 2008

Reg. No.

28,770

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47724



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of

Helmut MERTENS et al.

Serial No.: 10/519,471

Filed: December 29, 2004

For: **FILTER ELEMENT FOR
FILTERING FLUIDS**

: PATENT

:

: Art Unit: 1797

: Examiner: M. Gonzalez

: Appeal No. _____

RESPONSE

COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the April 28, 2008 Notification of Non-Compliant Appeal Brief, submitted herewith is an amended Brief on Appeal correctly identifying claims 11-21 as being subject to rejection in the above-identified application.

The fee for the Brief was previously paid.

Prompt and favorable action is solicited.

Respectfully submitted,


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Dated: April 30, 2008

47724



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of : PATENT
: :
Helmut MERTENS et al. :
: :
Serial No.: 10/519,471 : Art Unit: 1797
: :
Filed: December 29, 2004 : Examiner: M. Gonzalez
: :
For: **FILTER ELEMENT FOR** : Appeal No. _____
FILTERING FLUIDS : :
: :

BRIEF ON APPEAL

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APPENDIX A – COPY OF CLAIMS ON APPEAL

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of : PATENT
Helmut MERTENS et al. :
Serial No.: 10/519,471 : Art Unit: 1797
Filed: December 29, 2004 : Examiner: M. Gonzalez
For: **FILTER ELEMENT FOR**
FILTERING FLUIDS : Appeal No. _____

**APPELLANT BRIEF
ON APPEAL UNDER 37 C.F.R. §41.37**

COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

For the appeal to the Board of Patent Appeals and Interferences from the decision dated January 27, 2008 of the Primary Examiner twice and finally rejecting claims 11-21 in connection with the above-identified application, Applicant-Appellant submits the following brief in accordance with 37 C.F.R. §41.37.

1. Real Party in Interest

The inventors, Helmut Mertens and Andreas Schunk, assigned their entire rights, titles and interests in the patent application to Hydac Filtertechnik GmbH of Sulzbach/Saar, Germany.

2. Related Appeals and Interferences

There are no other related appeals or interferences known to Appellants, Appellants' legal representative, or assignee, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending Appeal.

3. Status of Claims

Claims 1-10 are cancelled. Claims 11-21 are pending, are rejected, and are on appeal.

4. Status of Amendments

Subsequent to the May 23, 2007 Office Action containing the final rejection, no Amendment was filed.

5. Summary of Claimed Subject Matter

Independent claim 11 covers a filter element for filtering fluids comprising outer, middle and inner filter units 12, 14 and 16 and outer, middle and inner support 24, 26 and 30. The filter units are arranged concentrically about a longitudinal axis 10 (Figs. 1-2, page 7, lines 1-3 and 10-12). The support elements 24, 26 and 30 are arranged concentrically about the longitudinal axis 10 and are disposed in an alternating succession with the filter units 12, 14, 16 (Figs. 1-2, page 7, lines 10-12). The outer, middle and inner support elements 24, 26 and 30 support and partially engage the outer, middle and inner filter units 12, 14, 16, respectively, in directions of fluid streams therethrough (Figs. 1-2, page 7, lines 12-15). Fluid receiving channels 28 are on a side of each of the middle and outer support elements 26 and 24 facing the respective filter units (Figs. 1-2, page 7, lines 15-18). The channels 28 are bordered laterally by longitudinal ribs 50 on the support elements, extend along spiral tracts on the outer and middle support elements 24 and

26, and have two free ends emerging on opposing ends of the middle and outer support elements 26 and 24 (Figs. 1-3, page 5, lines 5-16; page 9, lines 3-10; page 11, lines 6-14). The channels 28 extend continuously without repeated deflections of the fluid streams therein and only partially encompassing the respective support elements 24 and 26 forming a twisted guide for fluid flow (Figs. 1-2, page 5, lines 5-16). Conduit 22 conveys fluid to be filtered from outside the outer and inner filter units to inner clean sides thereof and from one side of the middle filter unit to an opposite clean side thereof (Fig. 1, page 7, lines 8-12; page 8, line 22 to page 9, line 2).

The filter element, as claimed, provides reliable operation without failure and with a high degree of performance, particularly relative to the need for expending energy to convey the fluid through the filter element.

6. Grounds for Rejection to be Reviewed Upon Appeal

Claims 11-21 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,104,534 to Branchcomb in view of U.S. Patent No. 2,865,510 to Greene, or in the alternative of the Greene patent in view of the Branchcomb patent.

7. Arguments

A. The Rejection Based on Obviousness

Claims 11-21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,104,534 to Branchcomb in view of U.S. Patent No. 2,865,510 to Greene, or the Greene patent in view of the Branchcomb patent. The Branchcomb is cited for a filter 10 having filter units 150 and 154 arranged concentrically about a longitudinal axis, and support elements 152 and 156 arranged in alternating succession with filter units 150 and 154. Fluid channels H are allegedly provided the pleats of elements 152 and 156, which channels are allegedly bordered

by ribs extending along spiral tracks based on the pleats being helical and having free ends emerging on the opposing ends of the support elements 152, 156. Additionally, the channels H are alleged to extend continuously without repeated deflections of the fluid streams. Conduits 14 and 16 allegedly convey fluid to be filtered from the outside of the filter units 150 and 154 to inner clean sides thereof. The Greene patent is cited for the use of three filter units 18 and three support elements A, B and C. In support of the rejection, it is alleged that it would be obvious to add more filter units and support elements in the Branchcomb patent, as allegedly taught by the Greene patent. In the alternative it is contended that it would be obvious to replace each Greene filter unit A, B, C with the filter and support elements, as disclosed in the Branchcomb patent.

Relative to claim 12, the claim support tube is alleged to be an obvious and minor difference relative to the Branchcomb support elements. Relative to claim 13, the Branchcomb channels H are allegedly on the inner and outer peripheral sides of the support elements 152, 156. Relative to claim 14, the Branchcomb patent allegedly discloses ribs H formed as crosspieces. Relative to claim 15, the Branchcomb patent allegedly discloses ribs connected in pairs on their outer peripheral sides to form support surfaces and on the inner peripheral sides to form bases of the grooves. Relative to claim 16, the Branchcomb support element 156 allegedly has passages forming a channel guide for fluid flow. Relative to claim 17, the Branchcomb patent allegedly discloses each filter unit including a cylindrical mat. Relative to claim 18, the Branchcomb support elements allegedly have at least 20 of the channels H. Relative to claim 19, the Branchcomb angles are allegedly between 10° and 30°. Relative to claim 20, the angle of 15° is viewed as being obvious. Relative to claim 21, the Examiner contends that the support elements preventing fluid flow therethrough and limiting flow along the surfaces thereof is a mere

statement of intended use and that the Branchcomb support elements 152 and 156 are capable of such use.

Additionally, the Examiner states that the Branchcomb support members 152 and 156 support filter elements 150 and 154, as apparently allegedly disclosed in col. 4, lines 29-51. Relative to the specific fluid flow, the Examiner contends that such feature, when broadly interpreted, is satisfied by the Branchcomb patent, as modified in view of the Greene patent.

B. Claim 11 is Patentably Distinguishable Over the Branchcomb and Greene Patents

Claim 11 is patentably distinguishable over the cited patents by the combination of outer, middle and inner filter units and support elements arranged concentrically about the longitudinal axis and disposed in an alternating succession and by the conveying of fluid to be filtered from the outside to the inside of the outer and inner filter units and from one side of the middle filter unit to its opposite clean side. The Branchcomb and Greene patents, considered individually or in any obvious combination thereof, do not disclose or render obvious these features.

The Branchcomb patent discloses a filter having four helical pleated filter elements arranged from the outside in by elements 150, 152, 154 and 156 concentrically inside pipe 112. The outside pair of filter elements 150 and 152 has helical pleats 130 spiraling in opposite directions so that the inner pleats of filter element 150 fit against the exterior pleats of filter element 152 to support each filter element. Filter elements 154 and 156 are arranged and support each other in a similar manner. Fluid to be filtered enters through inlet 114 and passage holes 137 such that fluid to be filtered flows from inlet 114 into interior spaces 160 and 166. In this manner, the fluid to be filtered appears to flow from the outside in through filter element 150, from the inside out through filter element 152, from the outside in through filter element 154 and from the inside out through filter element 156.

The Branchcomb members 152 and 156 are filter elements or filter units, and are not support elements, as alleged. While such elements have spiral pleats, such pleats are not disclosed as forming channels that extend continuously without repeated reflections to provide twisted guide channels for fluid flow, particularly since fluid flows through the Branchcomb filter elements. Moreover, the Branchcomb patent does not have the conduits providing the flow from the outside in its outer and inner filter units and from one side to an opposite side of its middle filter unit, as claimed.

Such deficiencies are not satisfied by the Greene patent. The Greene patent merely has three filtering units A, B and C of circular shape and uniform height, with each having metal mesh on its outer surface. Fluid to be filtered is pumped in the center of the three filtering units via pipe 31 and then passes sequentially through filtering unit C to filtering unit B and finally exiting through filtering unit A. Thus, the Greene arrangement only discloses the use of three filtering units arranged in a manner for sequential filtering and not simultaneous filtering, as in the Branchcomb patent and the present claimed invention. Particularly, the Greene patent does not provide the three filtering units in combination with the support elements and conduits providing the specific flow through arrangements provided to balance the overall assembly.

Nothing in the record provides an adequate reason or teaching for one of ordinary skill in the art to add a third filter element and third support element in the Branchcomb filter in view of the Greene patent. The Branchcomb filter already has four filter elements 150, 152, 154 and 156 such that the Greene patent with only three filter elements would not teach the modification proposed by the Examiner.

The series flow of the Greene patent, even if modified according to the alternative rejection, to use the Branchcomb filter element configuration for Greene filter paper 18 of the

filter units A, B and C would not provide the claimed combinations of filter units and support elements and of the conducts conveying the fluid to be filtered from the outside in for the inner and outer filter units. In the Greene filter, the conduits only convey the fluid to be filtered from the inside (from vertical pipe 31), through filter unit C, filter unit B and filter unit A, in order, to the lower portion of tank 1 (column 3, line 70, to column 4, line 17). Thus, the Greene conduits do not meet or render obvious the claim 11 limitations relative to the conduits.

Even if the use of the Green third filter unit in the Branchcomb device is assumed to be possible, that mere possibility does not make the proposed modification obvious unless the cited patents suggest a reason for the desirability of that modification. In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). There does not appear to be any suggestion or adequate reason to combine these patents since the mere commonality of filters does not provide the required motivation or reason. With any obvious combination of these patents, the resulting product would not achieve the desired results of the claimed invention.

Despite the simple concept of the invention, the Examiner has the burden of finding “the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge of [the] invention to make the combination in the manner claimed.” See In re Werner Kotzab, 217 F.3d 1365, 1371, 55 USPQ 2d 1313, 1318 (Fed. Cir. 2000). Here, the necessary factual findings are missing, rendering the rejection untenable.

The Examiner, in this situation has not pointed to any specific principle or motivation in the prior art that would lead one skilled in the art to arrive at the invention as claimed. “[P]articular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed.” In re Werner Kotzab, 217 F.3d at 1371, 55 USPQ 2d at 1318. If no particular finding

can be made as to the reason one skilled in the art would have used the Greene third filter element in the Branchcomb filter or the Branchcomb filter elements in the Green device, the holding of obvious cannot be sustained.

The Examiner is using the Examiner's knowledge of the invention, in hindsight, to conclude improperly that one skilled in the art would have found it obvious to make the proposed modification. However, such "hindsight reconstruction" is impermissible in reaching a finding of obviousness. See, e.g., W.L. Gore & Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983).

Accordingly, claim 11 is patentably distinguishable over the Branchcomb and Greene patents, considered in either order.

C. Dependent Claims

Claims 12-21, being dependent upon claim 11, are also allowable for the above reasons. Moreover, these dependent claims recited additional features further distinguishing them over the cited patents.

(1) Claim 12

Claim 12 is further distinguished by each support element being formed from a support tube. The claim 12 limitation is structural and is not in the form of a product-by-process limitation, as alleged by the Examiner. Rather claim 12 requires that each support element be a tube. The Branchcomb filter elements are not tubes.

(2) Claim 13

Claim 13 is further distinguished by the channels being on inner and outer sides of the middle and outer support elements. Since the Branchcomb members 152 and 156 are filter elements, the pleats thereof are not shown to provide the claimed fluid channels thereon.

(3) Claim 14

Claim 14 is further distinguished by the ribs being formed as crosspieces (see Fig. 3). The Branchcomb ribs are not shown to have or form the crosspieces, as claimed.

(4) Claim 15

Claim 15 is further distinguished by the connection of the ribs on outer sides to form support surfaces and on inner sides to form groove bases of the channels. Since the Branchcomb ribs R are parts of filter elements, no fluid conveying channels with the claimed support surfaces and bases are established to be disclosed in the Branchcomb patent.

(5) Claim 16

Claim 16 is further distinguished by the inner support element forming a channel guide for fluid flow. The Branchcomb filter element 15 does not provide a support element, as claimed.

(6) Claim 17

Claim 17 is further distinguished by each filter unit being a cylindrical mat of equal dimensions parallel to the longitudinal axis.

The Branchcomb patent specifically discloses that filter elements 152 and 154 are of different sizes relative to filter elements 152 and 154 (see column 4, lines 63-67). Further, the

limitation of each filter unit being a cylindrical mat, is not a product-by-process limitation but is a structural limitation. Thus, such limitation must be considered and given patentable weight.

(7) Claim 18

Claim 18 is further distinguished by at least 20 channels in the outer and middle support elements. Such channels are not shown to be disclosed or obvious from the Branchcomb patent.

(8) Claim 19

Claim 19 is further distinguished by channel tilt angle being between 10° and 30° relative to the longitudinal axis. Such range is not shown by any evidence to be obvious.

(9) Claim 20

Claim 20 is further distinguished by the channel tilt angle being 15°. Such angle is not disclosed in or shown to be obvious by the Branchcomb patent.

(10) Claim 21

Claim 21 is further distinguished by the outer and middle support elements preventing fluid flow therethrough and limiting fluid flow along surfaces thereof. Such preventing and limiting of fluid flow are structural characteristics of those support elements, and mere not intended use thereof. Since the Branchcomb members 152 and 156 relied upon by the Examiner for these claim features are filter elements, such filter elements are specifically designed to allow fluid flow therethrough and not limit fluid flow on surfaces thereof, as particularly shown by the flow arrows in Fig. 5 of that patent.

Nothing in the record supports the allegation in the final rejection that the Branchcomb filter elements are capable of or are disclosed to separate two liquids with one liquid being prevented from flowing therethrough. Such allegation, when unsupported by any evidence,

cannot for a valid basis for a rejection of the claims. Moreover, even the alleged two-liquid situation would allow fluid flow through the Branchcomb filter elements and not prevent such fluid flow, as recited in claim 21.

When no reference discloses a feature of a claim relied on to distinguish the prior art, there can be no suggestion to modify the prior art to contain that feature. In re Civitello, 339 F.2d 243, 144 USPQ 10 (C.C.P.A. 1964). As stated in W. L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 1551, 220 USPQ 303, 311 (Fed. Cir. 1983), there must be something in the teachings of the cited patents to suggest to one skilled in the art that the claimed invention would be obvious. Here, there is no teaching in the Branchcomb patent of support elements with the claimed flow limitations.

8. Conclusion

Accordingly, the rejections of claims 11-21 are untenable. Prompt and favorable action is solicited.

Respectfully submitted,



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Dated: April 19, 2008

APPENDIX A – COPY OF CLAIMS ON APPEAL

11. A filter element for filtering fluids, comprising:

outer, middle and inner filter units arranged concentrically about a longitudinal axis;

outer, middle and inner support elements arranged concentrically about said longitudinal axis and disposed in an alternating succession with said filter units, said outer, middle and inner support elements supporting and partially engaging said outer, middle and inner filter units, respectively, in directions of fluid streams therethrough;

fluid receiving channels on a side of each of said middle and outer support elements facing the respective filter units, said channels being bordered laterally by longitudinal ribs on said support elements, extending along spiral tracks on said outer and middle support elements and having two free ends emerging on opposing ends of said middle and outer support elements, said channels extend continuously without repeated deflections of fluid streams therein and only partially encompassing the respective support elements forming a twisted guide for fluid flow; and

conduits convey fluid to be filtered from outside said outer and inner filter units to inner clean sides thereof and from one side of said middle filter unit to an opposite clean side thereof.

12. A filter element according to claim 11 wherein

each of said support element is formed from a support tube.

13. A filter element according to claim 12 wherein
said channels are on both inner and outer peripheral sides of said outer and middle
support elements.
14. A filter element according to claim 13 wherein
said longitudinal ribs are formed as crosspieces on said support tubes.
15. A filter element according to claim 13 wherein
directly adjacent ones of said longitudinal ribs are connected in pairs on said outer
peripheral sides to form support surfaces and on said inner peripheral sides to form bases of
grooves of said channels.
16. A filter element according to claim 13 wherein
said inner support element has passages forming a channel guide for fluid flow.
17. A filter element according to claim 11 wherein
each said filter unit comprises a cylindrical mat of essentially equal linear dimensions in
directions parallel to said longitudinal axis.
18. A filter element according to claim 11 wherein
at least one of said outer and middle support elements has at least 20 of said channels
forming a common fluid guide.

19. A filter element according to claim 18 wherein
said channels are tilted at an angle between 10° and 30° relative to a line parallel to said
longitudinal axis.
20. A filter element according to claim 19 wherein
said angle is 15°.
21. A filter element according to claim 11 wherein
said outer and middle support elements prevent fluid flow therethrough, limiting flow
along surfaces thereof.

APPENDIX B - EVIDENCE

None.

APPENDIX C – RELATED PROCEEDINGS

None.